

**Abstract**

A droplet dispensing system for forming and dispensing droplets of a liquid sample is provided. The droplet dispensing system is fabricated on the tip of a dispensing pin. The tip of the dispensing pin includes a droplet ejection nozzle, a filling  
5 channel, a chamber and an actuator for ejecting droplets on demand. The system further includes a holder for mounting the dispensing pin. The holder also contains a control circuit for activating the actuator.